



U.S. Department  
of Transportation

Federal Railroad  
Administration

# **Overview of the Railroad Safety Regulatory Program and Standards-Related Partnership Efforts**

**April 12, 2001**

## **Legend:**

**ANPRM     Advance Notice of Proposed Rulemaking**

*Italics Indicates project has been identified for development through  
the Railroad Safety Advisory Committee or a similar  
forum for collaborative rulemaking*

**NPRM     Notice of Proposed Rulemaking**

**RSAC     Railroad Safety Advisory Committee**

**SACP     Safety Assurance and Compliance Program**

## Office of Safety

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## **NOTES**

**Centralized Docket Management System** - Dockets established after October 7, 1998, are available on the DOT Centralized Docket Management System facility and can be accessed over the Internet (<http://dms.dot.gov>). Detailed information is available at the Web site to assist in viewing documents.

**Revised Docket Filing Procedures for FRA Rulemaking and Adjudicatory Dockets** - Final Rule (64 FR 70193)  
- This final rule amends certain FRA rules to provide accurate information to the public regarding filing requirements for FRA proceedings. The final rule is effective 2/14/00.

## SUMMARY OF CONSENSUS RULEMAKING EFFORTS

**Roadway Worker Safety.** Consensus achieved in formal negotiated rulemaking; final rule published 12/16/96; effective 1/15/97. Denial of AAR and APTA petitions for reconsideration published 4/21/97.

**Passenger Equipment Safety Standards.** NPRM based on working group recommendations was published 9/23/97. Public hearing held 11/21/97. Final rule published 5/12/99 (64 FR 25540).

**Passenger Train Emergency Preparedness.** NPRM based on working group recommendations was published 2/24/97 with significant additions, and a notice of public hearings was published 3/6/97. Public hearings were held in Chicago on 4/4/97 and in New York City on 4/7/97. Final rule published 5/4/98 (63 FR 24630).

### Railroad Safety Advisory Committee:

The sixteenth full Committee meeting was held on 12/7/00. Notice of Meeting (65 FR 69603). The next meeting is scheduled for April 23, 2001. Notice of Meeting (66 FR 18351). Since its first meeting in 1996, the RSAC has accepted sixteen tasks. Below is a review of the RSAC initiatives to date.

Last RSAC Working Group Activity Update published in Federal Register 4/6/01.  
(66 FR 18352).

| Task No. | Subject  | Status   |
|----------|--|--|
| 96-1     | Power Brake Regulations, freight, general revision | Working group charter extended to 1/15/97 to produce NPRM; impasse reached at 12/4/96 meeting, and subsequent efforts to renew talks were not successful. FRA withdrew task at 6/24/97 meeting. FRA published second NPRM 9/9/98 (63 FR 48294) reflective of what FRA has learned through the collaborative process. Public hearings 10/26/98 and 11/13/98; technical conference 11/23-24/98. Submission of written comments date due extended to 3/1/99. Public meeting 5/27/99 on FRA motive power and equipment database. Final rule published 1/17/01 (66 FR 4104). An amendment extending the effective date of the final rule until May 31, 2001, was published on February 12, 2001 (66 FR 9905). FRA is reviewing petitions for reconsideration. |

|      |   |   |
|------|---|---|
| 96-2 | Track Safety Standards, general revision  | Consensus achieved; in balloting that concluded 11/21/96, RSAC voted to accept working group report and recommend NPRM. NPRM published 7/3/97; public hearing held 9/4/97; comment period closed 9/15/97. Final rule published 6/22/98; effective 9/21/98. FRA prepared an amendment to the final track rule providing for the use of Gage Restraint Measurement System technology (GRMS). Both the GRMS final rule amendment and the proposed Safety Standards for Roadway Maintenance Machines were approved by the full RSAC in a mail ballot during August. The GRMS final rule amendment published 1/10/01 (66 FR 1894) and Roadway Maintenance Machines NPRM published 1/10/01 (66 FR 1930). On January 31, 2001, FRA published a notice extending the effective date of the GRMS amendment to April 10, 2001 (66 FR 8372). On February 8, 2001, FRA published a notice delaying the effective date until June 9, 2001, in accordance with the Regulatory Review Plan (66 FR 9676). |
| 96-3 | Railroad Communications (including revision of Radio Standards and Procedures)  | Final meeting of working group held 1/23/97. Working group provided consensus NPRM to RSAC at 3/24/97 meeting. RSAC voted to accept the NPRM on 4/14/97. NPRM published 6/26/97. Final rule published 9/4/98 (63 FR 47182).   |
| 96-4 | Tourist Railroads   | Open task to address needs of tourist and historic railroads. On 4/1/96 RSAC authorized the formation of a Working Group to monitor and assist completion of the steam locomotive regulations task. Planned future activities involve review of other regulations for possible adaptation to the safety needs of tourist and historic railroads.  |
| 96-5 | Steam-Powered Locomotives, revision of inspection standards                     | Tourist & Historic Working Group met with task force representatives 9/3/97. NPRM approved by full committee on 2/17/98. NPRM published 9/25/98 (63 FR 51404). Public hearing held 2/4/99. Task Force developed and Working Group approved recommendations in response to comments received. NPRM approved by full Committee ballot 9/29/99. Final rule published 11/17/99 (64 FR 62828). Effective 1/18/00.  |
| 96-6 | Locomotive Engineer Qualification and Certification, general revision           | Task accepted 10/31/96; first working group meeting held 1/7-9/97. NPRM approved by full committee 5/14/98. NPRM published 9/22/98 (63 FR 50625). Final rule published 11/8/99 (64 FR 60966).   |
| 96-7 | Roadway Maintenance Machines [Track Motor Vehicle and Roadway Worker Equipment] | Task accepted 10/31/96. The NPRM and the final rule amendment on GRMS approved by full RSAC in a mail ballot in August 2000. The GRMS final rule amendment published 1/10/01(66 FR 1894) and Roadway Maintenance Machines NPRM published 1/10/01 (66 FR 1930). The GRMS final rule has been held up for 60 days to allow the incoming administration time to review the rule.   |
| 96-8 | Locomotive Crashworthiness and Working Conditions (planning task)               | Planning task accepted 10/31/96; planning group met 1/23/97; two task statements were accepted by the full Committee at 6/24/97 meeting [see 97-1, 97-2]. Planning task is COMPLETED.   |
| 97-1 | Locomotive Crashworthiness  | Task accepted 6/24/97; working group held initial meeting 9/8-9/9/97. Established task force to review collision history and design options. Working group reviewed results of research, reached agreement regarding desired technical and performance-based standards, and is currently drafting performance-based standards for freight and passenger locomotives to present to the RSAC. The Working Group also assisted in finalizing the collision data for the economic evaluation necessary to determine if the proposal will be cost beneficial. A draft NPRM will be circulated to the Working Group for review, and the economic evaluation will be provided as background.   |
| 97-2 | Locomotive Cab Working Conditions   | Task accepted 6/24/97; working group held initial meeting 9/10-11/97. The Working Group established task forces on noise and temperature. A draft sanitation NPRM was circulated to the working group for approval, with ballots requested by 11/3/00. The NPRM on Sanitation was published 1/2/01 (66 FR 136). The full working group met in October and November and reached tentative agreement on most of the significant issues related to the noise NPRM. The Cab Working Group has also considered issues related to cab temperature and is expected to consider additional issues (such as vibration) in the future. The Cab Working Group met 4/3-4/5/01 to refine recommendations to the FRA for Noise Standards. A public hearing was held 4/2/01 to discuss Locomotive Sanitation Standards, and that docket remains open through 5/1/01 for post-hearing submissions.  |

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|------------------------|--|---|
| 97-3                   | Event Recorders (data survivability, inspection, etc.) | Task accepted 6/24/97; working group first met 9/12/97. The Working Group and Task Force have conducted meetings and a draft NPRM is being reviewed.  |
| 97-4,<br>97-5,<br>97-6 | Positive Train Control                                 | Tasks accepted 9/30/97 and assigned to single working group. The Processor-based signal and train control system (PTC) NPRM was approved by consensus at the full RSAC meeting on 9/14/00. NPRM to be published in the Federal Register. Data and Implementation Task Force completed report on the future of PTC systems; report accepted for forwarding to FRA by full Committee vote at 9/8/99 meeting. FRA enclosed report with letter Report to Congress signed 5/17/00. The working group continues to meet to track progress toward PTC implementation. Task forces on Human Factors and the Axiomatic Safety-Critical Assessment Process (risk assessment) continue to work. Monitoring of implementation continues. Meeting of the Working Group was held on 3/26/01 to discuss updates on projects. |
| 97-7                   | Calculation of Damages for Reportable Train Accidents  | Task accepted with modification 9/30/97. Working Group has been formed. Initial meeting held 2/8/99. The Working Group designed a survey form to collect data about damages to railroad equipment. The pilot survey started 8/1/00 and will end 1/31/01. A statistical analysis to be done at the end of the survey to see if a method can be used to calculate property damages. Report is expected two months after last data is collected, approximately last week of April. Meeting scheduled for 5/21-23/01.   |
| 00-1                   | Blue Signal Protection of Workers                      | Task accepted 1/28/00; working group formed. First meeting was held 10/16/00-10/18/00; the second from 2/27-3/1/01 and the third meeting held 3/19- 22/01. The fourth meeting is scheduled May 2-3 and the fifth is scheduled 6/19-6/21/01.   |

## SAFETY RULES AND REPORTS--GENERAL

### Accident/Incident Reporting

**Summary:** The Rail Safety Enforcement and Review Act barred FRA from adjusting the monetary threshold for reporting of train accidents until the methodology was revised. In addition, FRA identified the need to comprehensively revise these regulations, which had not been revised since 1974. The report of the Committee of Conference on the Department of Transportation and Related Agencies Appropriation Act, 1996, directed FRA to issue a final rule in this proceeding by 6/1/96.

**History:** An NPRM was issued 8/19/94, followed by public hearings and written comment. A public regulatory conference was convened 1/30-2/3/95 in an effort to resolve outstanding issues. A notice of decision to issue a supplemental NPRM was published 7/3/95, but was withdrawn in a notice published on 1/24/96.

**Status: Completed.** Final rule was issued 5/30/96 and published 6/18/96 (61 FR 30940). Stay requests were denied, and technical amendments were published 11/22/96 (61 FR 59368). A notice of availability of custom software was also published 11/22/96 (61 FR 59485). **On 12/16/96, the Administrator signed final rule amendments, which were published 12/23/96 (61 FR 67477). Final rule became effective 1/1/97.** Industry training partnerships have been executed.

#### Next steps:

(1) FRA offered RSAC a task on 9/30/97 to review the definition of events required to be reported as train accidents, as requested by the Committee on 6/24/97. By request of the Committee, the task was limited to determination of damages qualifying an event as a reportable train accident. A working group has been formed and held its initial meeting 2/8/99. The working group has designed a survey form to collect specific data about damages on railroad equipment. The survey began August 1, 2000 and ended January 31, 2001. The survey was voluntary, but most of the larger freight railroads participated, as well as four passenger railroads. A complete statistical analysis will be done at the conclusion of the survey to determine if a method can be used to calculate property damages.

(2) FRA will offer an additional task at the RSAC meeting of 4/23/01. The task will concern amendments needed to conform Part 225 to the Occupational Safety and Health Administration's revised recordkeeping and reporting rule (1/18/01). In addition, it will be requested that RSAC review the need for, and content of, various proposed changes to the Reporting Guide.

### Blue Signal Protection

**Summary:** On 8/16/93, FRA published a final rule permitting one or more utility employees to associate themselves with a train crew for the purpose of performing normal operating functions that require employees to go on, under or between rolling stock, without use of blue signal protection (which is ordinarily appropriate for mechanical duties). During the proceeding it was noted that rules for locomotive engineers working alone were not clearly defined. FRA published a final rule amendment governing single engineers working alone on 3/1/95, but granted a requested suspension of the amendment on 6/9/95 pending development of additional facts. Since that time, additional blue signal issues have continued to emerge, including application of the requirements to contractors performing the subject functions on railroad property.

**Status:** On 10/31/96, the RSAC advised FRA that this project should not be proposed for early tasking, given conflicting demands on the resources of member organizations. RSAC accepted task at the 1/28/00 full Committee meeting. A working group has been formed and held its first meeting on 10/16-18/00 in Washington, DC. The second working group meeting was held 2/27-3/1/01 in San Diego. The third meeting was held 3/20-3/22/01 in St. Louis, MO. The next two meetings of the working group are scheduled for 05/1-3/01 in Atlanta, GA and 06/19-21/01 in Orlando, FL.

### Bridge Displacement Detection Systems (Report)

**Summary:** The Federal Railroad Safety Authorization Act of 1994 required FRA to submit a report on systems to detect bridge displacement of the type that caused the derailment of the Sunset Limited at Mobile, Alabama, 9/22/93.

**Statutory deadline:** 5/2/96

**Status:** A technical evaluation report was published 6/23/94 and made available to the respective committees. A formal report was issued and forwarded to the Congress on 4/11/00.

### **Control of Alcohol and Drug Use; Application of Random Testing and Other Requirements to Employees of a Foreign Railroad Who Are Based Outside the United States and Perform Train or Dispatching Service in the United States**

**Summary:** In general, FRA's regulation on the control of alcohol and drug use (49 CFR Part 219) currently applies to all railroads that operate on the general rail system of transportation in the United States. However, part 219 presently exempts from certain subparts operations by foreign railroads and certain small railroads.

**Status:** FRA completed the NPRM, which is in review and clearance in the Executive Branch.



## ***Event Recorder Next-Generation Performance Standards***

**Summary:** The National Transportation Safety Board has noted the loss of data from event recorders in several accidents due to fire, water and mechanical damage. In issuing final rules for event recorders which became effective 5/5/95, FRA noted the need to provide more refined technical standards. NTSB proposed performance standard for data survivability.

**Background:** Conducted an initial meeting of an informal working group comprised of AAR, RPI, and labor, and co-chaired by NTSB and FRA experts, on 12/7/95 to consider development of technical standards. At the RSAC meeting on 7/24-7/25/96, the AAR agreed to continue this inquiry, and on 11/1/96, AAR reported to the RSAC the status of work on proposed industry standards. On March 5, 1997, NTSB issued recommendations regarding testing and maintenance of event recorders as a result of finding in the investigation of the BNSF accident of 2/1/96 at Cajon Pass, California. On 3/24/97, the RSAC indicated its desire to receive a task to consider NTSB recommendations with respect to crash survivability, testing and maintenance.

**Status:** RSAC accepted task 6/24/97. Event Recorder working group first met 9/12/97. The Working Group and Task Force have conducted meetings and a draft proposal rule is being reviewed. FRA is integrating comments received. (Task No. 97-3). The NPRM is expected by end of Fiscal Year (09/01).

## ***Florida Overland Express***

**Summary:** FRA received a petition for a rule of particular applicability for operations over a new high-speed railroad between Miami and Tampa via Orlando. The State of Florida had established a dedicated funding stream of \$70 million per year towards creation of this new private/public partnership.

**Status:** Received petition for rule of particular applicability 2/18/97. FRA issued NPRM 12/12/97 (62 FR 65478). Comment period closed. FRA reviewed comments received and held a public hearing on 11/23/98 to discuss a variety of issues. The State of Florida withdrew its support and funding for this project 1/99, suspending all activity on development. The rulemaking was terminated (65 FR 50952; 8/22/00).

## ***Freight Car Safety Standards; Maintenance-of-Way Cars***

**Summary:** Cars not in compliance with the Freight Car Safety Standards may be operated at track speed in revenue trains if they are company-owned, stenciled cars. FRA published an NPRM 3/10/94 to close this loophole. FRA requested the Association of American Railroads to amplify its comments by letter of 12/20/94.

**Status:** AAR response received 8/4/95 is under review. FRA offered a task to the RSAC to resolve final rule issues on 9/30/97; following an objection from the AAR, the matter was prevented from coming to a vote. FRA will prepare the final rule.

## ***Locomotive Crashworthiness and Working Conditions***

**Summary:** The Rail Safety Enforcement and Review Act of 1992 required FRA to conduct a proceeding regarding locomotive crashworthiness and working conditions and to issue regulations or submit a report. Areas for consideration included structural means of preventing harm to crew members in collisions (collision posts, anticlimbers, etc.) and matters related to safety, health and productivity (e.g., noise, sanitation).

**Statutory deadline:** 3/2/95

**Background:** FRA conducted research, outreach, and a survey of locomotive conditions and finalized a report to the Congress transmitted by letter of September 18, 1996. The report conveyed data and information developed by FRA to date, closed out those areas of investigation for which further action is not warranted, and defined issues that should be pursued further in concert with the industry parties, either for voluntary or regulatory action. On 10/31/96, the RSAC accepted a preliminary planning task. The Locomotive Crew Safety Planning Group met 1/23/97, and subsequent consultations led to preparation of task statements.

**Status:** RSAC accepted two tasks 6/24/97. (RSAC Task 97-1, locomotive crashworthiness; and Task 97-2, locomotive cab working conditions).

**Locomotive Crashworthiness** Working Group met 9/8-9/97 and established a task force on engineering issues that has been active in reviewing collision history and design options. The Working Group reviewed the results of research and is drafting performance-based standards for freight and passenger locomotives to present to the RSAC for consideration. A working group team has concluded its development of accident data used in the economic analysis. The review of collision data for use in the regulatory action was completed in September 2000. An NPRM will be circulated to the Working Group within the 04/-05/01 period. The Working group will meet to review.

**Locomotive Cab Working Conditions** Working Group met for the first time 9/10-11/97 and established task forces on noise and temperature.

**Sanitation.** The working group approved a draft NPRM on cab sanitation, which was approved by the full committee on 12/7/00. The NPRM was published 1/2/01 (66 FR 136). A public hearing was held 4/2/01; and the docket remains open through 5/1/01.

**Noise exposure.** The Cab Working Group met in October and November of 2000 on the issue of occupational noise exposure for cab employees and achieved tentative agreement on most of the significant issues. The working group met 4/3-4/5/01 to review draft rule text for an NPRM.

**Temperature.** The Cab Working Group has also considered issues related to cab temperature, but could not reach agreement to proceed. FRA prepared a proposal on cab temperature for issuance as an NPRM that remains in review and clearance within the Executive Branch.

The Cab Working Group is expected to consider additional issues (such as vibration) in the future.

### ***Locomotive Engineer Certification; Miscellaneous Revisions***

**Summary:** The final rule for locomotive engineer certification became effective in 1991, but certain issues were left unresolved. Experience under the rule has raised additional issues. Examples of issues under review include the status of operators of specialized maintenance of way equipment and types of conduct for which decertification is appropriate.

**Status:** An interim final rule amendment dealing with agency practice and procedure concerning engineer certification appeals was published 10/12/95. Issues related to procedures on the properties, offenses warranting decertification, periods of decertification, operation of specialized equipment, etc., are pending. The RSAC accepted this task on 10/31/96. The Working Group's initial meeting was held 1/7-1/9/97. Final meeting to review proposed rule language was held 10/7-10/9/97, and task force on hearing and vision met 10/21/97 to finalize language. The full committee voted 5/14/98 to recommend issuance of the NPRM forwarded by the Working Group. The NPRM was published 9/22/98 (63 FR 50625) (RSAC Task 96-6.) The Working Group met to resolve issues presented in public comments, and on 1/28/99 the RSAC voted to transmit recommendations regarding issues for which the Working Group had received comments. The final rule was published 11/8/99 (64 FR 60966); effective date 1/7/00. (FRA Docket No. RSOR-9. Notice 12).

### **Northeast Corridor (NEC) Signal & Train Control**

**Summary:** Amtrak is planning operations to 150 mph on portions of the NEC and is implementing improvements to the automatic train control system that will provide positive stop and continuous speed control capabilities. FRA's Northeast Corridor Safety Committee (NCSC) met 9/20/94 and approved a set of performance criteria for the new system.

**Status:** On 1/30/97, Amtrak provided to FRA a draft system concept for the Advanced Civil Speed Enforcement System (ACSES), including conditions for operation on designated territories on the south and north ends of the NEC. Final details were received by FRA on 7/9/97. A notice of Proposed Order for the new signal and train control system authorizing speeds to 150 miles per hour (135 mph on the South End with only high-speed trains equipped under "flanking protection") was published 11/20/97 (62 FR 62097), and written comments were due by 12/22/97. As a result of requests, a public hearing was set for 2/17/98 (63 FR 3389), and the comment closing date was extended to 2/24/98. Final Order of Particular Applicability published 7/22/98 (63 FR 39343); effective 8/21/98. Amendments to the Order of Particular Applicability published 10/19/00 (65 FR 62975). The amendments include a new implementation schedule and technical changes. The order was further amended to provide a temporary procedure for operations in the case of failed on-board equipment (66 FR 1718; 1/9/01).

### ***Passenger Equipment Safety Standards***

**Summary:** The Federal Railroad Safety Authorization Act of 1994 (enacted 11/2/94) required FRA to issue initial passenger safety standards within 3 years and complete standards within 5 years. The agency was authorized to consult with industry parties outside the Federal Advisory Committee Act, making it possible to conduct an informal negotiated rulemaking.

**Statutory deadline:** 11/2/97 (initial); 11/2/99 (final).

**Status:**

**Phase I:** An initial meeting of the Passenger Equipment Safety Working Group (passenger railroads, operating employee organizations, mechanical employee organizations, and representatives of rail passengers) was held on 6/7/95, and the group met regularly to develop an NPRM. Manufacturer/supplier representatives served as associate members. FRA prepared an ANPRM indicating the issues under review by the working group, which was published 6/17/96 (61 FR 30672). The working group held its final meeting on the NPRM 9/30-10/2/96, having reached consensus on a portion of the issues presented. An NPRM was published 9/23/97 (62 FR 49728). The public hearing was held 11/21/97 (see 62 FR 55204; 10/23/97). Comments were due 11/24/97. Final working group meeting on the initial standards was held 12/15-12/16/97, and an additional meeting on intercity and high speed issues was held 1/6/98. The final rule was published 5/12/99 (64 FR 25540). Final rule amendments responsive to petitions for reconsideration on issues regarding inspection, testing and maintenance of passenger cars were published 7/3/00 (65 FR 41284). FRA is finalizing additional amendments in response to petitions for reconsideration.

**Phase II:** The first phase of this rulemaking activity, including the passenger emergency preparedness proceeding described below, resulted in comprehensive safety standards for passenger service. Phase II will address enhancements based on ongoing research, development of detailed standards by the American Public Transportation Association (APTA) Passenger Rail Equipment Safety Standards (PRESS) task force, and other identified needs. This phase commenced in 2000 and will be progressed through targeted rulemakings as research results and consultations mature. Held a research needs workshop with APTA in April 2000.

## ***Passenger Train Emergency Preparedness***

**Summary:** The Federal Railroad Safety Authorization Act of 1994 required FRA to issue emergency preparedness standards for passenger service. Initial standards were required within 3 years and complete standards within 5 years. The agency was authorized to consult with industry parties outside the Federal Advisory Committee Act, making it possible to conduct an informal negotiated rulemaking.

**Statutory deadline:** 11/2/97 (initial); 11/2/99 (final)

**Background:** An initial meeting of the working group for passenger train emergency preparedness standards was held on 8/8/95. The group met 2/6-7/96 to develop elements of an NPRM and met jointly with the Passenger Equipment Safety Standards Working Group on 3/26/96 to consider related issues, including the implications of Emergency Order No. 20 and recommendations of the National Transportation Safety Board. The working group included representatives of passenger railroads, operating employee and dispatcher organizations, and rail passenger organizations, and an advisor from the National Transportation Safety Board. The working group approved draft rule text, which was incorporated in an NPRM forwarded for review and clearance. Changes requested during review and clearance were provided to the working group during the week of 12/16/96.

**Status:** The NPRM was published 2/24/97 (62 FR 8330), and a notice of public hearings was published 3/6/97 (62 FR 10248). Public hearings were held in Chicago on 4/4/97 and in New York City on 4/7/97. Written comments were due by 4/25/97. The working group met 8/28/97 and agreed in principle to revisions for inclusion in the final rule. The final rule was published 5/4/98 (63 FR 24630), and a correction notice was published 7/6/98 (63 FR 36376).

**NOTE:** The following order is closely associated with the two prior entries:

## **Emergency Order No. 20**

**Summary:** This order deals with the safety of push/pull and electric multiple unit service. The order was issued 2/20/96 (61 FR 6876; 2/22/96), and amended 2/29/96 (61 FR 8703; 3/5/96). Intercity and commuter passenger railroads were required to adopt operating rules providing for observance of reduced speed where delays are

incurred in blocks between distant signals and signals at interlocking or controlled points. Marking of emergency exits and testing of emergency windows was required. Interim system safety plans were required to be filed.

**Status:** The order has been fully implemented. On 3/26/96, the Passenger Equipment Safety Working Group and the Emergency Preparedness Working Group met jointly to consider implementation issues and crossover issues with the two rulemaking proceedings and recent recommendations of the National Transportation Safety Board. The American Public Transportation Association and its members have undertaken a number of actions in response to the emergency order, including development of comprehensive system safety plans. Codification, revision or termination of provisions will be considered during the second phase of passenger safety standards rulemaking.

## ***Positive Train Control***

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### **Evaluation of needs and feasibility (implementation):**

**Summary:** These tasks involve defining PTC functionalities, describing available technologies, evaluating costs and benefit of potential systems, and considering implementation opportunities and challenges, including demonstration and deployment. (RSAC Tasks 97-4 and 97-5).

**Status:** Accepted by RSAC 9/30/97. Monitoring of implementation continues. Data and Implementation Task Force completed report on future of PTC, which was accepted by the full RSAC on 9/8/99. Meeting of Working Group was held 3/26/01 to discuss updates on projects.

### **Performance Standards for PTC Systems**

**Summary:** Existing signal and train control regulations are built around relay-based controllers and traditional track circuits, but technology is rapidly advancing. This task requires revising various regulations, including 49 CFR Part 236, to address the safety implications of processor-based signal and train control technologies, including communication-based operating systems. The purpose of the effort is to encourage deployment of innovative technology by providing a predictable environment. (RSAC Task 97-6). The concept of PTC refers to the ability to prevent train-to-train collisions, over speed derailments and casualties to roadway workers who are within authorized work zones along the railroad.

**Status:** Accepted by RSAC 9/30/97. The proposed rule on processor-based signal and train control systems was approved by consensus at the full RSAC meeting on 9/14/00. The NPRM is in review and clearance within the Executive Branch.

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### **Progress Report to the Congress:**

**Summary:** The Swift Rail Development Act of 1994 required FRA to submit a status report on the implementation of positive train control as a follow-up to the 7/94 Report entitled *Railroad Communications and Train Control*.

**Statutory deadline:** 12/31/95

**Status:** The Report was issued in letter format and forwarded to the Congress on 5/17/00. It enclosed the RSAC Report entitled *Implementation of Positive Train Control Systems* (approved 9/8/99).

## **Power Brakes**

**Summary:** The Rail Safety Enforcement and Review Act (1992) required FRA to revise the power brake regulations. The statute required adoption of requirements for 2-way end-of-train telemetry devices (EOTs) and "standards for dynamic brakes."

**Statutory deadlines:** Final rule by 12/31/93; 2-way EOTs to be used on trains operating greater than 30 miles per hour or in mountain grade territory to be equipped by 12/31/97.

**Status:** FRA published an NPRM 9/16/94 and conducted six days of public hearings ending 12/94. Due to strong objections to the NPRM, additional options were requested from passenger interests by 2/27/95 and from freight interests by 4/3/95. Further action is as follows:

- 1) **Passenger standards revision:** FRA requested the Passenger Equipment Safety Standards Working Group to incorporate new proposals for revisions of the power brake regulations in the NPRM for passenger

equipment safety. Working group proceedings on the elements of the NPRM concluded 10/2/96 without full agreement on power brake elements. See Passenger Equipment Safety Standards for final rule action.

2)**Freight standards revision:** On 4/1/96, the RSAC accepted the task of preparing a second NPRM. The working group initiated its efforts in May, and on 10/31/96 the RSAC extended the deadline for a final report until 1/15/97. At the working group meeting 12/4/96, an impasse was declared, and subsequent efforts to revive discussions were not successful. On May 29, FRA notified the working group by letter that the task will be formally terminated. FRA withdrew task at 6/24/97 full Committee meeting. FRA prepared second NPRM reflective of what was learned through the collaborative process. NPRM published 9/9/98 (63 FR 48294) (FRA Docket No. PB-9, Notice No. 13). (RSAC Task 96-1--terminated). Public hearings were conducted on 10/26/98 and 11/13/98 and a technical conference was held on 11/23-24/98. Final date for submission of comments extended until 3/1/99. **The final rule was published 1/17/01 (66 FR 4101).** An amendment extending the effective date of the final rule until May 31, 2001, was published on February 12, 2001 (66 FR 9905). On March 19, 2001, AAR submitted an official petition for reconsideration of the final rule.

3)**Two-way end-of-train devices:** FRA published notice on 2/21/96 that this issue would be separated from the balance of the freight issues and expedited for completion of a final rule. A public regulatory conference was convened 3/5/96 to explore remaining issues, and written comments were due 4/15/96. (Railroads also agreed to an expedited schedule that will ensure application of this technology by 12/15/96 on 2% or greater grades and by 7/1/97 for other trains.) The final rule was published 1/2/97 (62 FR 278) (FRA Docket No. PB-9, Notice No. 6), and it became effective 7/1/97. FRA received two petitions for reconsideration ("local train" definition and implementation date for smaller railroads). A notice denying the request to delete the tonnage restriction for local trains and granting extension of the compliance date for railroads with fewer than two million work hours was published 6/4/97 (62 FR 30461). On 11/4/97, held technical conference on petition of American Short Line Railroad Association regarding operation of very light trains over grade territory (see 62 FR 52370; 10/7/97); subsequently granted certain relief.

On 1/16/98, FRA published NPRM to clarify application of two-way EOT requirements to intercity passenger trains with express equipment at the rear (63 FR 195). Final rule was issued 5/1/98 (63 FR 24130). (FRA Docket No. PB-9, Notice No. 11).

**Note:** On 2/6/96, the Administrator issued Emergency Order No. 18, requiring use by the BNSF of 2-way EOTs or equivalent protection for heavy grade operations over the Cajon Pass (61 FR 505; 2/9/96).

### ***Railroad Communications (including Radio Standards and Procedures)***

**Summary:** In submitting the required report to the Congress on Railroad Communications and Train Control on 7/13/94, FRA noted the need to revise existing Federal standards for radio communications in concert with railroads and employee representatives.

**Status:** On 4/1/96, the RSAC accepted the task of preparing an NPRM, including consideration of communication capabilities required in railroad operations. The working group presented a consensus NPRM to the full Committee on 3/24/97, and the Committee voted to recommend issuance of the NPRM to the Administrator in balloting that ended 4/14/97. NPRM issued 6/11/97 and published 6/26/97 (62 FR 34544) (FRA Docket No. RSOR-12, Notice No. 4). Comment period closed 8/25/97. Final rule published 9/4/98 (63 FR 47182). (FRA Docket No. RSOR-12, Notice No. 5). (RSAC Task 96-3).

## Regulatory Reinvention

**Summary:** In response to President Clinton's call for regulatory review, elimination and reinvention, FRA took several actions to repeal obsolete regulations and simplify agency processes that affect external customers. Major elements of this effort are included in regulatory revision efforts described under other headings.

**Status:** Interim final rule amendments reducing frequency of reporting regarding signal and train control systems (49 CFR Part 233), simplifying review requirements for certain modifications of signal systems (49 CFR Part 235), and making conforming changes regarding inspection of ATC/ATS/ACS (49 CFR Part 236) published 7/1/96 (61 FR 33871). These amendments are being prepared for publication. FRA's proposed 1999 rail safety reauthorization legislation, introduced in the 106<sup>th</sup> Congress as H.R. 2683 and S. 1496, included provisions to permit flexibility for railroads to make accident/incident reports less frequently than monthly and to eliminate outdated requirements for notarization of reports. (This bill has now lapsed with the end of the 106<sup>th</sup> Congress).

## Roadway Worker Safety

**Summary:** In requiring the review of the Track Safety Standards, the Rail Safety Enforcement and Review Act (1992) required FRA to evaluate the safety of maintenance of way employees. In addition, the Brotherhood of Maintenance of Way Employees and the Brotherhood of Railroad Signalmen petitioned FRA to issue "on-track safety" rules.

**Background:** FRA published a notice 8/17/94 initiating a formal negotiated rulemaking. The negotiated rulemaking committee reported a statement of principles 5/17/95 and completed an NPRM draft 8/95. NPRM published 3/14/96 (61 FR 10528); initial written comments were due 5/13/96. Public hearing held 7/11/96.

**Status:** The final rule was published 12/16/96 (61 FR 65959); effective 1/15/97. Petitions for reconsideration were denied in a notice published 4/21/97. A consolidated hearing on waiver petitions was held 5/22/97, and written comments were due by 6/9/97. FRA issued decisions on individual petitions as investigations and analysis were completed.

## Safety Integration Plans

**Summary:** In response to the proposed acquisition of Conrail by Norfolk Southern and CSX Transportation, FRA suggested, and the Surface Transportation Board required, that the petitioners file with the Board of Safety Integration Plans (SIPs). In coordination with the Board, FRA proposed regulations requiring preparation and FRA review of SIPs in connection with future railroad mergers.

**Status:** FRA and the STB jointly issued an NPRM 12/31/98 (63 FR 72225) to institutionalize the SIP process to ensure that proper safety planning and safety investments are undertaken during a merger. The proposed rule spells out the types of transactions that will require SIPs and outlines the roles of FRA and the STB in overseeing the SIP process. FRA has reviewed the comments and is preparing the final rule for Executive Branch review.

## Small Railroads; Interim Policy Statement

**Summary:** The Small Business Regulatory Enforcement Fairness Act of 1996 amended the Regulatory Flexibility Act and required, among other things, that each agency establish small business communication and enforcement programs.

**Statutory deadline:** 3/29/97

**Status:** Interim policy statement published 8/11/97 (62 FR 43024). Public meeting to address definition of "small entity" was held on 9/28/99. FRA is preparing a final policy statement.

## Steam Locomotives

**Summary:** A committee of steam locomotive experts from tourist and historic railroads has sought a partnership with FRA to revise the steam locomotive regulations. Proposed revisions would relieve regulatory burdens while updating and strengthening the technical requirements.

**Status:** Revision of the Steam Locomotive Inspection regulations was tasked to the RSAC on 7/24/96. A task force of the Tourist and Historic Railroads Working Group is actively working toward finalization of a final rule. NPRM rule text agreed upon within the task force was approved by the Tourist and Historic Working Group on 9/3/97 and provided to the RSAC on 9/30/97. The full RSAC approved the consensus NPRM by mail ballot 2/17/98. NPRM published 9/25/98 (63 FR 51404) (FRA Docket No. RSSL 98-1, Notice No. 1). (RSAC Task 96-5). Public hearing held 2/4/99. Task Force formulated recommendations in response to comments received. The recommendations were accepted by the working group and the full Committee voted to incorporate the recommendations in the final rule. The final rule was published 11/17/99 (64 FR 62828) (FRA Docket No. RSSL 98-1, Notice No. 3); effective date 1/18/00.

### ***Roadway Maintenance Machines [Track Motor Vehicle and Roadway Equipment Safety]***

**Summary:** A 1990 petition to FRA from the Brotherhood of Maintenance of Way Employees asked FRA, among other requests, to propose standards for MOW equipment related to the safety of persons riding or operating that equipment. FRA elected not to pursue that issue at that time given other pending workload. However, this issue was renewed during the deliberations of the RSAC Track Safety Standards Working Group.

**Status:** On 10/31/96, the RSAC accepted a task of drafting proposed rules for the safety of this equipment. A task force of the Track Safety Standards Working Group was formed to address this issue. The NPRM on Roadway Maintenance Machines and the final rule amendment on the Gage Restraint Measurement System were approved by the full RSAC in a mail ballot during August. The GRMS final rule amendment was published 1/10/01 (66 FR 1894) and Roadway Maintenance Machines NPRM was published 1/10/01 (66 FR 1930). See also Track Safety Standards re: GRMS final rule.

### ***Tourist Railroad Report / Review of Regulatory Applicability***

**Summary:** The Swift Rail Development Act of 1994 required FRA to submit a report to the Congress regarding FRA's actions to recognize the unique factors associated with these generally small passenger operations that often utilize historic equipment.

**Statutory deadline:** 9/30/95

**Status:** Report submitted to the Congress 6/10/96. The RSAC authorized formation of a Tourist and Historic Railroads Working Group 4/1/96. The working group held its initial meeting 6/17-6/18/96 and has monitored and assisted completion of the steam locomotive regulations task and will continue its oversight of task force activities, including the possible development of requirements for the training of steam locomotive operators and maintenance personnel. Planned future activities involve review of other regulations, such as track safety, emergency preparedness, and passenger equipment safety standards for possible adaptation to the safety needs of tourist and historical railroads. (RSAC Task 96-4).

### ***Track Safety Standards***

**Summary:** The Rail Safety Enforcement and Review Act (1992) required FRA to revise the Track Safety Standards, taking into consideration, among other things, the "excepted track" provision. Other prominent issues include updating the standards to take advantage of research findings for internal rail flaw detection and gage restraint measurement. FRA also proposes to adopt track standards for high-speed service.

**Statutory deadline:** Final rule by 9/1/95.

**Background:** FRA published an ANPRM 11/6/92 and conducted workshops in the period 1/93-3/93. The RSAC accepted the task of preparing an NPRM on 4/2/96. The Track Safety Standards Working Group reported a draft NPRM to the full committee on 10/31/96. In balloting that concluded 11/21/96, RSAC voted to accept the working group report and recommend issuance of the NPRM.

**Status:** NPRM signed 6/19/97 and published 7/3/97 (62 FR 36138) (FRA Docket No. RST-90-1, Notice No. 5). Hearing held 9/4/97; comment period closed 9/15/97. Additional comment was invited regarding certain high-speed track geometry issues by notice of 12/12/97 (62 FR 65401) not later than 12/22/97. Final rule published 6/22/98 (63 FR 33991) (FRA Docket No. RST-90-1, Notice No. 8); effective 9/21/98.

The final rule amendment on Gage Restraint Measurement System (GRMS) standards and the NPRM on Roadway Maintenance Equipment were approved by the full RSAC in a mail ballot during August. The GRMS final rule amendment was published 1/10/01 (66 FR 1894) and Roadway Maintenance Machines NPRM was published 1/10/01 (66 FR 1930). On 1/31/01, FRA published a notice extending the effective date of the GRMS amendment to 4/10/01 (66 FR 8372). On February 9, 2001, FRA published a notice delaying the effective date until 6/9/01, in accordance with the Regulatory Review Plan (66 FR 9676).

## **U.S. Locational Requirement for Dispatching of U.S. Rail Operations**

**Summary:** New 49 CFR Part 241 would require all dispatching of railroad operations that occur in the United States to be performed in the United States, with certain exceptions.

**Status:** Drafting of the Interim Final Rule has been completed, and FRA has forwarded the IFR for review and clearance.

## **HIGHWAY-RAIL CROSSING SAFETY**

### **Commercial Driver Disqualification - Railroad-Highway Grade Crossing Violation**

**Summary:** To enhance the safety of commercial motor vehicle (CMV) operations on our nation's highways and complete action initiated in response to the requirements specified in section 403 of the ICC Termination Act of 1995, the Federal Motor Carrier Safety Administration revised its regulations (49 CFR Parts 383 and 384) to require that CMV drivers who are convicted of violating Federal, State, or local laws or regulations pertaining to railroad-highway grade crossings be disqualified from operating a CMV.

**Status:** Final rule published on 09/02/99 (64 FR 48104).

### **Grade Crossing Signals (Inspection, Testing and Maintenance)**

**Summary:** FRA issued a final rule for inspection, testing and maintenance of automated warning devices 9/30/94, and the rule went into effect 1/1/95 (49 CFR Part 234). During the initial year, FRA worked with railroads and signal employees to disseminate information, conduct training, and identify any areas of ambiguity or weakness in the standards. At a technical resolution committee (TRC) meeting during the week of 3/13/95 that included participation by railroads, the Brotherhood of Railroad Signalmen, and States, several issues were identified that require clarification or refinement. An interim manual dated 4/14/95 incorporated the findings of the TRC.

**Status:** Interim final rule amendments published 6/20/96 (61 FR 31802). FRA has prepared a notice to make the changes final which is expected to be published in the near future.

### **Locomotive Visibility / Auxiliary Alerting Lights**

**Summary:** In 1991, FRA initiated a new phase of research on locomotive conspicuity in relation to safety at highway-rail crossings. The Amtrak Authorization and Development Act of 1992 mandated that the research be completed and that a regulation be issued to apply alerting lights to locomotives.

**Statutory deadline:** Final rule by 6/30/95.

**Background:** FRA published a "grandfathering rule" on 2/3/93 and amendments on 5/13/94. After the research was substantially completed in early summer of 1995, FRA briefed the industry parties on the results, discussed options for regulatory action, and elicited additional information concerning railroads' progress in equipping their fleets. A Notice of Proposed Rulemaking was published on 8/25/95. The AAR and the ASLRA requested a technical conference to perfect the rule for final issuance, and that conference was held 11/28/95. Written comments were due by 12/12/95.



**Status:** Final rule was published 3/6/96 (61 FR 31802). Equipping of locomotives used as lead units at speeds exceeding 20 mph was required to be completed by 12/31/97, as provided by law.

## **Private Highway-Rail Grade Crossings**

**Summary:** The Secretary's Action Plan for Grade Crossing Safety (6/94) commits FRA to conducting a special safety inquiry on private crossings.

**Status:** Conducted workshop on possible guidelines 7/93; timing of further action to be determined.

## **Selection of Grade Crossing Automated Warning Devices**

**Summary:** FRA published a Notice of Proposed Rulemaking 3/2/95 (60 FR 11649) and received over 3,000 written comments through 6/14/95.

**Status:** Termination notice published 8/8/97 (62 FR 42733).

## **Use of Locomotive Horns (Whistle Bans)**

**Summary:** Legislation enacted with the Swift Rail Development Act of 1994 required FRA to issue regulations providing for the use of train horns at highway-rail crossings.

**Statutory deadline:** Final rule 11/2/96 (most hazardous crossings), 11/2/98 (other crossings).

**Background:** This legislative mandate anticipated FRA follow up to Emergency Order No. 15, which addressed local whistle bans on the Florida East Coast Railroad between Jacksonville and Miami. FRA released a report on the national impacts of local whistle bans on 6/1/95 and conducted an extensive program of public outreach to make communities aware of the forthcoming rulemaking and to seek information on supplementary safety measures that would support allowance of quiet zones in communities sensitive to train horn noise. Contacts were established with 160+ jurisdictions known to have whistle bans in place. FRA representatives met with or addressed forums of state and local officials and community groups. Met with AAR/BRS/AAHSTO/FHWA 12/13/95 to address technical specifications for 4-quadrant gates.

Numerous congressional offices encouraged FRA to continue outreach and data collection. FRA advised the Congress that the deadline for an initial final rule would not be met as a result. Immediately prior to adjournment, the 104th Congress enacted the FAA reauthorization bill (PL 104-264; 10/9/96), which included amendments to the original whistle ban legislation. In general, the legislation affirmed the latitude available to the Secretary to provide for phase-in of regulations and focus on safety results.

**Status:** NPRM published 1/13/00 (65 FR 2230) (Docket No. FRA-1999-6439, Notice No. 1). Written comments were due 5/26/00. FRA held 12 public hearings and a technical conference to receive oral comments. Received and reviewed more than 3,000 comments (combined for the NPRM and draft environmental impact statement). Labor, Health and Human Services Appropriations Act, 2001, bars issuance of final rule before 7/1/01. Preparing final rule.

## **Completion of the Department of Transportation's Technical Working Group recommendations on new standards for the use and implementation of highway-rail grade crossing warning devices (cross bucks, lights, gates, grade separation).**

**Summary:** The FRA and the Federal Highway Administration are co-chairs of the Working Group whose members include representatives of the Federal Transit Administration (FTA), the National Transportation Safety Board (NTSB), the Association of American Railroads, the American Shortline and Regional Railroad Association, state transportation agencies, county transportation agencies, the supply industry and academia. A report will be published in 2001.

## **The FRA and Operation Lifesaver, Inc. (OL) completed the development of new Public Service Announcements (PSA) to promote highway-rail grade crossing safety and railroad trespasser prevention.**

**Summary:** The PSAs are being developed with a \$350,000 federal grant. Focus group sessions were completed in July, and preliminary PSA concepts have been reviewed and approved by representatives of FRA, OL, the Association of American Railroads, the International Association of Police Chiefs and other Federal/State and industry partners. Production of the PSAs was completed by December 31, 2000. Airing of the PSAs began after the Christmas/New Year holiday season.

## **HAZARDOUS MATERIALS**

### ***New Directions for Hazardous Materials Safety by Rail***

**Summary:** The movement of hazardous materials throughout the railroad industry provides an excellent example of the dynamic interrelationship between shippers, carriers, freight car builders, repair companies, and Federal, State, and Tribal governments. Under authority delegated to us by the Secretary of Transportation, we administer a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum and chemical products and nuclear shipments throughout the Nation's rail transportation system. Our agency also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international standard, even if such a package does not contain a hazardous material. Our current hazardous materials safety regulatory program and standards-related partnerships include the following items:

- Hazardous Materials Incident Reduction Program
- Tank Car Facility Conformity Assessment Program
- Spent Nuclear Fuel and High-Level Nuclear Waste Program
- Rulemaking, Approvals, and Exemptions
- Standards-Related Partnerships

#### **Hazardous Materials (HazMat) Incident Reduction Program:**

Data collected by the Research and Special Programs Administration shows about 1100 HazMat releases per year from bulk packages such as tank cars that do not result from a derailment or other transportation accident. That number has remained relatively consistent for over 10 years. It is important to note that despite FRA's focus on shippers in the past, our efforts have not resulted in dramatic safety improvements in this area. The largest decline in HazMat releases resulted from a Federal rulemaking that increased the burst pressure of rupture discs on tank cars, an industry outreach effort to communicate the risk of disc failures, and an industry effort to install surge-suppression devices below the disk on tank cars.

It is observed that non-accident related releases of a HazMat generally result from a Federal or industry standard that was allowed to progress to failure. To prevent releases, the agency and industry must focus on the detection of in-process failures, such as deterioration of gaskets, threaded closures, shell corrosion, and the progression of fatigue cracks in tank shell material. Failures also include training programs that fail to deliver the needed knowledge and skills to operating personnel.

Starting in September of 2000, the agency developed a new performance plan to help reduce the number of in-process failures in transportation. The plan first reviews national performance trends based on accident/incident data and FRA field inspection activity. The findings from the review are then made part of the HazMat Division's National Performance Goals (NPG). Implementation of the NPG follow one or more of the following areas:

- Continued review of accident/incident data
- Continued review of inspection data
- Field assessments, audits, and interviews
- Regionally-based inspections based on areas identified as high risk
- Mechanical design improvements
- Operating improvements

- Outreach programs:
- Industry associations
- Plant labor and management safety meetings
- Seminars and conferences
- Training and education

#### **Tank Car Facility Conformity Assessment Program:**

Chapters 51 and 201 of Title 49, United States Code (formerly the Hazardous Materials Transportation Act and the Federal Railroad Safety Act of 1970) provide DOT with sweeping regulatory authority to oversee the construction of bulk packages used in the rail transportation system, such as tank cars and covered hoppers. The Secretary of Transportation has delegated the enforcement of Chapter 51 and its implementing regulations to the FRA. Although part of FRA's program since 1967, the agency's attention to the manufacturing and maintenance details of tank car construction was *ad hoc*, and generally associated with tank car failures. Beginning in September 2000, the agency established a comprehensive plan to oversee the facilities that have the potential to introduce defects into the manufacturing and maintenance cycle of tank cars.

Currently, the North American tank car industry consists of 20 locations that fabricate and assemble tank cars and more than 100 locations that assemble and repair tank cars. There are also about 350 additional locations that provide manufacturing and maintenance services to tank car internal lining and coatings and to service equipment, such as valves and fittings. Overseeing this industry requires a coordinate effort of nationally-based and regionally-based inspection efforts, all focused at preventing failures from entering the transportation system. The national program is a work product in FRA's initiative to improve quality in tank car manufacture, repair, and maintenance programs. The plan is an integral part of the Hazardous Materials Safety program because of the heavy reliance on tank cars to transport the majority of hazardous materials by rail.

The program is designed with three objectives. The first objective is to gauge and improve the level of compliance with Federal regulations at facilities where DOT specification tank cars and other tank cars used to transport hazardous materials are manufactured, repaired, inspected, tested, qualified, or maintained. The second objective is to provide improved uniformity with regard to inspection activities and facilitate on-the-job training through a program that brings inspectors together in a manner that is not generally possible. The third objective is to fortify the overall rail safety program through an improvement in quality at these facilities.

#### **Safety Compliance Oversight Plan for Spent Nuclear Fuel and High-Level Nuclear Waste:**

The FRA has regulatory oversight for the safety of railroad operations within the United States. Ranking at the top of FRA's priorities is the safety of rail shipments involving Spent Nuclear Fuel (SNF)<sup>1</sup> and High-Level Radioactive Waste (HLRW)<sup>2</sup>. These materials have been transported safely by rail in the United States for more than 40 years. In the mid-1980s, partly as a result of the rail shipments from the Three Mile Island Nuclear Power Plant, FRA implemented its High-Level Nuclear Waste Rail Transportation Inspection Policy<sup>3</sup> for all known rail shipments of SNF and HLRW. Under FRA's Inspection Policy, there has never been a rail accident or incident involving the transportation of SNF or HLRW that has resulted in a release of the material from the packaging. Furthermore, there has never been a single death or injury resulting from a rail shipment of radioactive material.

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<sup>1</sup>The Nuclear Waste Policy Act of 1982 (NWPA) defines "spent nuclear fuel" as "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing."

<sup>2</sup>NWPA defines "high-level radioactive waste" as "(A) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and (B) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." The term "Commission" as used in the definition means the Nuclear Regulatory Commission.

<sup>3</sup> See Appendix A "*Federal Railroad Administration High-Level Nuclear Waste Rail Transportation Inspection Policy*".

Nevertheless, past rail shipping campaigns have shown that the nature of the potential hazards associated with radioactive materials elicits a high degree of public awareness and concern regarding the safety and integrity of SNF and HLRW shipments by rail. Furthermore, these shipments are projected to increase dramatically in volume in the foreseeable future; 75 to 90 percent of the SNF and HLRW will be transported by rail. Total annual shipments of these materials are expected to increase from the current 15 to 25 shipments per year to between 400 to 600 shipments per year within the next decade.

Development of the SCOP involved a coordinated effort between FRA, DOE, the Association of American Railroads (AAR), railroad labor organizations, and representatives of affected States. FRA wishes to acknowledge the invaluable contribution of its safety partners whose insight and wisdom were instrumental in formulating the policies and procedures that are incorporated into the SCOP.

In developing the SCOP, FRA has revised its previous policy to include the following safety enhancements in planning, inspection, training, and oversight activity areas:

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#### Planning

- FRA, DOE, the offeror or agent, and the rail carriers will consider track classification in the route selection process to ensure that the highest-rated track is utilized.
- FRA will prepare an accident prediction model for the highway-rail grade crossings along the route. FRA will assist DOE in coordinating with appropriate State, local, and tribal agencies in route planning activities, using this model.
- The Department of Transportation's (DOT) Office of Intelligence and Security will assist FRA in coordinating safety precautions, such as the identification of "safe havens," with the offeror, law enforcement officers, and intelligence communities.

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#### Inspections

- FRA will arrange for a track geometry car to operate over designated routes.
- FRA will conduct visual inspections of bridges along the designated routes and review railroads' bridge inspection programs to ascertain structural integrity.
- FRA will review the rail carrier's rail flaw detection vehicle data to ensure that a rail flaw detection vehicle has been operated over the designated route, and necessary rail repairs are made prior to shipments.
- The SCOP requires that every train involved in the transportation of SNF and HLRW be equipped with a 2-way End-of-Train (EOT) braking device, regardless of train length. Prior to each shipment, and during each crew change point along the route, FRA will endeavor to inspect trains to ascertain that EOTs are operational.

Along a designated route, FRA will inspect all automated warning devices, at highway-rail grade crossings along the route, to ascertain that they are operational.

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#### Training/Oversight

- FRA will assist DOE, and the offeror or agent, in the development of Emergency Response training and safety briefings. FRA also will liaison with the rail industry to verify that requisite training and briefings have been performed.
- Prior to the first shipment, and at least annually for subsequent shipments, FRA will review emergency response plans for designated routes and recommend modifications, if necessary.
- Prior to the first shipment, and at least annually for subsequent shipments, FRA will conduct the necessary reviews to ensure that train crews are properly certified, trained, and experienced in operating over the designated routes.

- FRA will place Operating Practices personnel in the rail carriers' dispatching centers for the first shipment on designated routes, and will review dispatching procedures periodically for subsequent shipments.
- Prior to the first shipment, and for subsequent shipments, as appropriate, FRA will focus on Operation Lifesaver training in communities along designated routes.
- FRA will continue to prioritize complaints regarding designated routes, and will continue to expedite the investigation and resolution of these complaints.

#### **Rulemaking, Approvals, and Exemptions:**

#### **Standards-Related Partnerships:**

Chapter 9, Article 906(1) and (2), NAFTA, states:

*Recognizing the crucial role of standards-related measures in promoting and protecting legitimate objectives, the Parties shall. . . .work jointly to enhance the level of safety and of the protection of human, animal, and plant life and health, the environment and consumers. . . .the Parties shall, to the greatest extent practicable, make compatible their respective standards-related measures, so as to facilitate trade in a good or service between the Parties.*

To accomplish the goals of NAFTA, the United States, Canada, and Mexico have agreed to develop standard-related measures, based on the *United Nations Recommendations on the Transport of Dangerous Goods* (orange book). One part of the standard concerns the design, construction, inspection, testing, and maintenance of tank cars. The development of the standard follows actions taken by the North American Free Trade Agreement, Land Transportation Standards Subcommittee (LTSS), Working Group on the Transportation of Dangerous Goods (Group 5) on June 11, 1998 in Montreal, Quebec, Canada. To meet this objective, Canada, Mexico, and the United States agreed to promote the development of an industry-sponsored standard-related measure for tank cars (North American Model Standard for Tank Cars [NAMS-TC]).

*Canadian General Standards Board:*

*Industrial Applications in Partnerships:* To assist the industry in complying with new rules and to further research in inspection and test methods, FRA and the industry have partnered in the following safety initiatives:

- Maintenance Program Development
  - Railcar operating environment stub-sill working group
  - Reliability engineering research
  - Tank car specimens for nondestructive examination research
  - Critical flaw size research
  - Fatigue crack growth properties of steels research
  - Acoustic emission testing research
- Tank car damage assessment research
  - Tank car fire protection research
  - Tank car puncture resistance research
  - Pressure relief valve sizing research
  - Tank car design and use parameters for 286,000 gross rail loads research and rulemaking

### **Tank Car Crashworthiness and Retest**

**Summary:** Research and Special Program Administration Dockets HM-175A and HM-201 addressed further improvements in tank car crashworthiness, and adoption of advanced non-destructive testing to improve tank retest procedures, respectively.

**Status:** Final rules published 9/21/95 (60 FR 49048).

### **OTHER SAFETY PROJECTS AND PARTNERSHIP EFFORTS**

## Bridge Structural Safety

**Summary:** Following a survey of bridge conditions and railroad inspection practices, FRA determined that regulatory action is not necessary, but that FRA should continue to exercise an oversight role regarding bridge structural safety programs. FRA issued an interim statement of policy 4/27/95, with comments due 6/26/95.

**Status:** Comments support continued FRA partnership role. FRA issued a final bridge statement of policy for safety of railroad bridges that establishes suggested criteria for railroads to use to ensure the structural integrity of bridges that carry railroad tracks. The statement was published in the Federal Register on 8/30/00 (65 FR 52667).

**Note:** On 2/12/96, the Administrator issued Emergency Order No. 19, which removed from service a bridge on the Tonawanda Island Railroad in New York State pending necessary structural repairs (61 FR 628; 2/16/96). In 12/16/99, the Administrator reissued Emergency Order No. 22, which removed from service a bridge on the Oregon Pacific Railroad in Oregon State pending inspection of repairs to assure safety (64 FR 71844; 12/16/99). This Emergency Order was partially lifted by order of 1/20/00 (65 FR 5018; 2/21/00).

## Discolored Wheels

FRA has granted a master waiver of the Freight Car Safety Standards permitting continued use of discolored heat-treated, curved plate wheels, which have superior resistance to thermal abuse. Data gathered under the waiver, together with results of analysis already provided, may support a permanent change in the regulation.

## Environmental Impacts

FRA revised its Procedures for Considering Environmental Impacts to update or eliminate outdated references to programs or statutory authorities that no longer exist and to correct inconsistencies with the Council on Environmental Quality's National Environmental Policy Act implementing regulations. The revised procedures were published in the Federal Register on 5/26/99 (64 FR 28545).

## Hours of Service Electronic Recordkeeping

Current hours of service record keeping uses paper and ink, but a major railroad has been given relief to keep electronic records. Other railroads have expressed interest, and similar waivers will involve similar issues. At FRA's invitation, the AAR submitted a petition seeking a master waiver for use of electronic record keeping. However, individual railroads have elected to proceed separately, and FRA is processing each on its merits. Permanent amendments to the recordkeeping and reporting requirements may be proposed. FRA is assisting railroads in developing electronic systems by providing guidance materials.

## Remote Control Locomotives

Current regulations contemplate operation of a locomotive exclusively from within the cab, and provision for the safety of the operation is made within that context. FRA has previously proposed a test program to gather more data on various types of operations. FRA has also held an informal safety inquiry regarding use of one-person crews and remote control locomotives on the Wisconsin Central (see 61 FR 58736; 11/18/96). On 5/15/00, FRA published a notice of a technical conference to examine the current status of safety issues related to this technology (65 FR 31056). The technical conference was held on July 19, 2000. Total meeting attendance, including presenters, was approximately 120. The Technical Conference focused on the changes in RCL operations that have occurred over the past five years. Notice of Safety Advisory 2001-01, which establishes recommended minimum guidelines for the operation of remote control locomotives was published 02/14/01 (66 FR 10340).

## **Shared Use of General Railroad System - Joint Statement of Agency Policy**

FRA and the Federal Transit Administration (FTA) have been working together to develop a policy concerning safety issues related to light rail transit operations on the general railroad system, how the two agencies intend to coordinate use of their respective safety authorities, and the waiver process related to shared use operations. A proposed joint statement of policy was published 5/25/99 (64 FR 28238) with comments due on 7/30/99. Comment period extended on 7/28/99 to 10/29/99 (64 FR 40931). Additional extension on 10/28/99 to 1/14/00 (64 FR 58124). FRA issued a final joint policy statement describing the extent of its statutory jurisdiction over railroad passenger operations and explaining how it will exercise its jurisdiction. The statement was published 7/10/2000 (65 FR 42526). (Docket No. FRA-1999-5685.)

## **Shared Use of General Railroad System - FRA Jurisdiction Policy Statement**

FRA issued a proposed statement of agency policy on 11/1/99 (64 FR 59046) (FRA Docket No. FRA-1999-5685, Notice No. 4) describing the extent of its statutory jurisdiction over railroad passenger operations (which covers all railroads except urban rapid transit systems not connected to the general railroad system) and to explain how it will exercise that jurisdiction. Comments were due by 1/14/00. Final Policy Statement published 7/10/2000 (65 FR 42529).

## **TOFC/COFC Securement**

**Summary:** Following a serious accident at Smithfield, N.C., on 5/16/94, FRA formed a partnership with major railroads and labor organizations to evaluate and improve securement of intermodal loads. A report to the Secretary dated 9/15/94 documented the initial results of that effort.

**Status:** FRA held a meeting on 2/22/95 that focused on an item-by-item discussion of the status and progress made within the industry with respect to the seven recommendations identified in the report to the Secretary. The AAR has established an Intermodal Equipment Handling Task Force that has developed a number of training aids. A follow-up TOFC/COFC loading and securement safety survey was conducted during 1996. FRA conducted additional loading and securement field evaluations during July-August 1997. Joint training activity brought together railroads, TTX and FRA to maintain strong emphasis on compliance with AAR loading requirements. FRA continues to monitor securement of trailers and trucks in transportation and to work on this issue through SACP's on individual railroads. In August 1999, FRA inspectors began bi-regional team audits, with 18 inspections per team to be completed by August 2001. To date, the survey of intermodal loading facilities is progressing as planned. The deficiencies found are tracking at a rate similar to previous studies. As of 02/01/01, the teams have surveyed 5,686 railcars, 2,992 trailer platforms, and 8,452 container platforms. A total of 2,214 deficiencies were noted.

## ***Train Dispatcher Training***

FRA submitted a report to the Congress on 1/5/95 regarding the functions of contemporary train dispatching offices. The report noted that traditional pools of candidates for recruitment of train dispatchers are no longer adequate to the need. In partnership with the American Train Dispatchers Department/BLE (ATDD), FRA identified the need for a model train dispatcher training program.

Experts from Amtrak, the ATDD, the Burlington Northern/Santa Fe Railroad and FRA developed a list of elements for dispatcher training programs. Required competencies and training program elements have been abstracted from this effort for a model program. The RSAC was briefed on this effort on 3/24/97, with participants in the training task force indicating reluctance to attempt a "one size fits all" regulatory approach. More recent discussion in the RSAC has indicated a renewed interest by the ATDD in development of uniform minimum standards for dispatcher training and qualification.

## SAFETY ADVISORIES/DIRECTIVES/BULLETINS (FEDERAL REGISTER NOTICES)

| Advisories |  |
|------------|--|
| 2001-2     | <b>Structural Integrity of Cast Steel Draft Sills.</b> This advisory establishes recommended minimal guidelines for inspection, and operation of Trinity Industries covered hopper cars, with draft sills manufactured by American Steel Foundries. Also guidelines if car is involved in derailment and/or found defective. Published 03/12/01 (66 FR 14432).   |
| 2001-1     | Remote Control Locomotives. This advisory establishes recommended minimal guidelines for the operation of remote control locomotives. Published 02/14/01 (66 FR 10340).  |
| 2000-3     | Switching Operations. This advisory provides safety practices to reduce the risk of serious injury or death both to railroad employees engaged in switching operations and to the general public. Published 11/2/00 (65 FR 65895).   |
| 2000-2     | Signal Units. This advisory recommends replacement of certain components in Harmon Industries' "Electro Code 4" and "Electro Code 4 Plus" intermediate signal units.   |
| 2000-1     | <b>Model B1 relays.</b> This advisory asks railroads to inspect and test certain relays for which there is a concern regarding potential malfunction. Published 5/11/00 (65 FR 30474).   |
| 99-3       | Securement of floor beam cross-members on RoadRailer trailers: Safety practices to prevent the highway tandem wheel on RoadRailer trailers from falling onto the rails on moving trains. Published 11/10/99 (64 FR 61377).   |
| 99-2       | [Not issued.]  |
| 99-1       | <b>Lifting or jacking of railroad equipment:</b> Safety practices related to lifting or jacking of railroad equipment in order to remove trucks or repair other components on a piece of railroad equipment which requires individuals to work beneath railroad equipment while it is raised. Published 6/16/99 (64 FR 32300).   |
| 98-3       | <b>Safe Use of Prescription and Over-the-Counter Drugs:</b> Safety practices for the safe use of prescription and over-the-counter drugs by safety-sensitive railroad employees. Published 12/24/99 (63 FR 71334)  |
| 98-2       | <b>Emergency application of airbrakes:</b> Safety practices to reduce the risk of casualties caused by failure to activate the available two-way end-of-train telemetry device (two-way EOT) to initiate an emergency brake application beginning at the rear of the train when circumstances require an emergency application of the train airbrakes. Published 6/5/98 (63 FR 30808).   |
| 98-1       | <b>Vision standards of certified locomotive engineers:</b> Addresses the vision standards of certified locomotive engineers in order to reduce the risk of accidents arising from vision impaired engineers. Published 5/28/98 (63 FR 29297).  |
| 97-3       | <b>Authorization of train movements past stop indications of absolute signals:</b> Safety practices to reduce the risk of accidents arising from conflicting train movements when train dispatchers and control operators authorize movements past a stop indication of an absolute signal. Published 9/18/97 (62 FR 49047).   |
| 97-2       | <b>Failure to properly secure unattended rolling equipment:</b> Safety practices to reduce the risk of casualties from runaway locomotives, cars, and trains caused by failure to properly secure unattended rolling equipment left on sidings or other tracks. Published 9/18/97 (62 FR 49046)  |
| 97-1       | <b>Protection of trains and personnel from hazards caused by severe weather conditions:</b> Safety practices to reduce the risk of casualties from train derailments caused by damage to tracks, roadbed and bridges resulting from uncontrolled flows of water and similar weather-related phenomena. Note: This was amended on November 12, 1997, by revising the recommendations concerning the transmission of flash flood warning to train dispatchers or other employees controlling the movement of trains. Published 9/4/97 (62 FR 46794). |
| Directives |  |



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|------------------|---|
| 97-1             | Review of operational tests and inspection programs and review of train dispatching procedures in non-signaled territory: Safety practices to evaluate the integrity of all railroads' programs of operational tests and inspections to ensure that safety-critical information is accurately conveyed and acknowledged for operations in non-signaled Direct Train Control (DTC) territory. Published 6/30/97 (62 FR 35331). |
| 97-2             | <b>Initiating emergency application of train airbrakes descending heavy grades:</b> Safety practice to prevent run-away trains on heavy grades of 2 percent or greater by initiating emergency application of airbrakes whenever train speed exceeds maximum authorized speed by five miles or more. Published 2/27/97 (62 FR 9014).  |
| <b>Bulletins</b> |   |
| 97-1             | <b>Loss of dynamic braking due to unintentional activation of emergency MU fuel-line cut-off device:</b> Safety practices for certain locomotives equipped with emergency MU fuel-line cut-off devices located inside the locomotive control compartment at a location which enables the cut-off device to be activated unintentionally. Published 1/30/97 (62 FR 4569).  |

**Unnumbered:** Recommended safety practices for Direct Train Control Operations.  
Published 12/3/96 (61 FR 64191).